

RECEIVED

MAR 19 2002

TECH CENTER 1600/2900



TECH CENTER 1600/2900

MAR 18 2002

RECEIVED

1647

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/659,983D

DATE: 03/05/2002

TIME: 09:54:12

Input Set : A:\21834518 seq list.txt

Output Set: N:\CRF3\03052002\I659983D.raw

P.6

5 <110> APPLICANT: Meloen, Robert Hans
 7 Oonk, Hendrica Berendina
 11 <120> TITLE OF INVENTION: An Improved Peptide, Immunogenic Composition and Vaccine or
 Medical
 12 Preparation, a Method to Immunise Animals Against the Hormone LHRH, and
 13 Analogs of the LHRH Tandem Repeat Peptide and their Use as Vaccine
 17 <130> FILE REFERENCE: 2183-4518US
 21 <140> CURRENT APPLICATION NUMBER: 09/659,983D
 23 <141> CURRENT FILING DATE: 2000-09-12
 27 <150> PRIOR APPLICATION NUMBER: US 09/274,048
 29 <151> PRIOR FILING DATE: 1999-03-22
 33 <150> PRIOR APPLICATION NUMBER: US 08/981,557
 35 <151> PRIOR FILING DATE: 1995-06-07
 39 <150> PRIOR APPLICATION NUMBER: PCT/NL96/00223
 41 <151> PRIOR FILING DATE: 1996-06-06
 45 <150> PRIOR APPLICATION NUMBER: US 08/447,298
 47 <151> PRIOR FILING DATE: 1995-06-07
 51 <150> PRIOR APPLICATION NUMBER: US 08/476,013
 53 <151> PRIOR FILING DATE: 1995-06-07
 57 <160> NUMBER OF SEQ ID NOS: 13
 61 <170> SOFTWARE: PatentIn version 3.1
 65 <210> SEQ ID NO: 1
 67 <211> LENGTH: 10
 69 <212> TYPE: PRT
 71 <213> ORGANISM: Sus scrofa
 75 <220> FEATURE:
 77 <221> NAME/KEY: MISC_FEATURE
 79 <222> LOCATION: (1)..(1)
 81 <223> OTHER INFORMATION: X=pyroglutamic acid
 85 <220> FEATURE:
 87 <221> NAME/KEY: MISC_FEATURE
 89 <222> LOCATION: (10)..(10)
 91 <223> OTHER INFORMATION: X=Gly-NH2
 95 <400> SEQUENCE: 1
 97 Xaa His Trp Ser Tyr Gly Leu Arg Pro Xaa
 98 1 5 10
 101 <210> SEQ ID NO: 2
 103 <211> LENGTH: 10
 105 <212> TYPE: PRT
 107 <213> ORGANISM: Homo sapiens
 111 <220> FEATURE:
 113 <221> NAME/KEY: MISC_FEATURE
 115 <222> LOCATION: (1)..(1)
 117 <223> OTHER INFORMATION: X=pyroglutamic acid

ENTERED

RAW SEQUENCE LISTING

DATE: 03/05/2002

PATENT APPLICATION: US/09/659,983D

TIME: 09:54:12

Input Set : A:\21834518 seq list.txt

Output Set: N:\CRF3\03052002\I659983D.raw

121 <220> FEATURE:
 123 <221> NAME/KEY: MISC_FEATURE
 125 <222> LOCATION: (10)..(10)
 127 <223> OTHER INFORMATION: X=Gly-NH2
 131 <400> SEQUENCE: 2
 W--> 133 Xaa His Trp Ser His Gly Trp Tyr Pro Xaa
 134 1 5 10
 137 <210> SEQ ID NO: 3
 139 <211> LENGTH: 20
 141 <212> TYPE: PRT
 143 <213> ORGANISM: Artificial Sequence
 147 <220> FEATURE:
 149 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against
 forms
 150 GnRH/ LHRH.
 152 <220> FEATURE:
 154 <221> NAME/KEY: MISC_FEATURE
 156 <222> LOCATION: (1)..(1)
 158 <223> OTHER INFORMATION: X=pyroglutamic acid or Gln with attached tail of one or more
 addi
 159 tional amino acids
 163 <220> FEATURE:
 165 <221> NAME/KEY: MISC_FEATURE
 167 <222> LOCATION: (3)..(3)
 169 <223> OTHER INFORMATION: X=Trp or N(indole)-formyl-tryptophan
 173 <220> FEATURE:
 175 <221> NAME/KEY: SITE
 177 <222> LOCATION: (10)..(11)
 179 <223> OTHER INFORMATION: there is either a direct bond or a spacer group between Gly
 at po
 180 sition 10 and Gln at position 11
 184 <220> FEATURE:
 186 <221> NAME/KEY: MISC_FEATURE
 188 <222> LOCATION: (13)..(13)
 190 <223> OTHER INFORMATION: X=Trp or N(indole)-formyl-tryptophan
 194 <220> FEATURE:
 196 <221> NAME/KEY: MISC_FEATURE
 198 <222> LOCATION: (20)..(20)
 200 <223> OTHER INFORMATION: X=Gly-NH2 or Gly with attached tail or one or more amino
 acids
 204 <220> FEATURE:
 206 <221> NAME/KEY: REPEAT
 208 <222> LOCATION: (10)..(19)
 210 <223> OTHER INFORMATION: repeat of amino acid sequence between positions 10-19 where
 the a
 211 mino acids in positions 10-19 are present(at least once
 215 <400> SEQUENCE: 3
 W--> 217 Xaa His Xaa Ser Tyr Gly Leu Arg Pro Gly Gln His Xaa Ser Tyr Gly
 218 1 5 10 15
 W--> 221 Leu Arg Pro Xaa
 222 20
 225 <210> SEQ ID NO: 4
 227 <211> LENGTH: 21

229 <212> TYPE: PRT

RAW SEQUENCE LISTING

DATE: 03/05/2002

PATENT APPLICATION: US/09/659,983D

TIME: 09:54:12

Input Set : A:\21834518 seq list.txt

Output Set: N:\CRF3\03052002\I659983D.raw

231 <213> ORGANISM: Artificial Sequence

235 <220> FEATURE:

237 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against forms

238 GnRH/ LHRH.

240 <220> FEATURE:

242 <221> NAME/KEY: MISC_FEATURE

244 <222> LOCATION: (1)..(1)

246 <223> OTHER INFORMATION: X=pyroglutamic acid

250 <220> FEATURE:

252 <221> NAME/KEY: MISC_FEATURE

254 <222> LOCATION: (6)..(6)

256 <223> OTHER INFORMATION: X=D-Lys

260 <220> FEATURE:

262 <221> NAME/KEY: MISC_FEATURE

264 <222> LOCATION: (11)..(11)

266 <223> OTHER INFORMATION: X=Gln or Gln preceded by a spacer

270 <220> FEATURE:

272 <221> NAME/KEY: MISC_FEATURE

274 <222> LOCATION: (16)..(16)

276 <223> OTHER INFORMATION: X=D-Lys

280 <220> FEATURE:

282 <221> NAME/KEY: MISC_FEATURE

284 <222> LOCATION: (21)..(21)

286 <223> OTHER INFORMATION: X=Cys-NH2

290 <400> SEQUENCE: 4

W--> 292 Xaa His Trp Ser Tyr Xaa Leu Arg Pro Gly Xaa His Trp Ser Tyr Xaa
 293 1 5 10 15
 W--> 296 Leu Arg Pro Gly Xaa
 297 20

300 <210> SEQ ID NO: 5

302 <211> LENGTH: 21

304 <212> TYPE: PRT

306 <213> ORGANISM: Artificial Sequence

310 <220> FEATURE:

312 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against forms

313 GnRH/ LHRH.

315 <220> FEATURE:

317 <221> NAME/KEY: MISC_FEATURE

319 <222> LOCATION: (1)..(1)

321 <223> OTHER INFORMATION: X=pyroglutamic acid

325 <220> FEATURE:

327 <221> NAME/KEY: MISC_FEATURE

329 <222> LOCATION: (6)..(6)

331 <223> OTHER INFORMATION: D-Lys

335 <220> FEATURE:

337 <221> NAME/KEY: MISC_FEATURE

339 <222> LOCATION: (11)..(11)

341 <223> OTHER INFORMATION: X=Gln or Gln preceded by a spacer

345 <220> FEATURE:

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/659,983D

DATE: 03/05/2002
TIME: 09:54:12

Input Set : A:\21834518 seq list.txt
Output Set: N:\CRF3\03052002\I659983D.raw

347 <221> NAME/KEY: MISC_FEATURE
349 <222> LOCATION: (16)..(16)
351 <223> OTHER INFORMATION: X=D-Lys
355 <220> FEATURE:
357 <221> NAME/KEY: MISC_FEATURE
359 <222> LOCATION: (21)..(21)
361 <223> OTHER INFORMATION: X=Cys-NH2
365 <400> SEQUENCE: 5
W--> 367 Xaa His Trp Ala Tyr Xaa Leu Arg Pro Gly Xaa His Trp Ala Tyr Xaa
368 1 5 10 15
W--> 371 Leu Arg Pro Gly Xaa
372 20
375 <210> SEQ ID NO: 6
377 <211> LENGTH: 21
379 <212> TYPE: PRT
381 <213> ORGANISM: Artificial Sequence
385 <220> FEATURE:
387 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against
forms
388 GnRH/ LHRH.
390 <220> FEATURE:
392 <221> NAME/KEY: MISC_FEATURE
394 <222> LOCATION: (1)..(1)
396 <223> OTHER INFORMATION: X=pyroglutamic acid
400 <220> FEATURE:
402 <221> NAME/KEY: MISC_FEATURE
404 <222> LOCATION: (6)..(6)
406 <223> OTHER INFORMATION: X=D-Lys
410 <220> FEATURE:
412 <221> NAME/KEY: MISC_FEATURE
414 <222> LOCATION: (11)..(11)
416 <223> OTHER INFORMATION: X=Gln or Gln preceded by a spacer
420 <220> FEATURE:
422 <221> NAME/KEY: MISC_FEATURE
424 <222> LOCATION: (16)..(16)
426 <223> OTHER INFORMATION: X=D-Lys
430 <220> FEATURE:
432 <221> NAME/KEY: MISC_FEATURE
434 <222> LOCATION: (21)..(21)
436 <223> OTHER INFORMATION: X=Cys-NH2
440 <400> SEQUENCE: 6
W--> 442 Xaa His Trp Ser Tyr Xaa Leu Ala Pro Gly Xaa His Trp Ser Tyr Xaa
443 1 5 10 15
W--> 446 Leu Ala Pro Gly Xaa
447 20
450 <210> SEQ ID NO: 7
452 <211> LENGTH: 21
454 <212> TYPE: PRT
456 <213> ORGANISM: Artificial Sequence
460 <220> FEATURE:

RAW SEQUENCE LISTING

DATE: 03/05/2002

PATENT APPLICATION: US/09/659,983D

TIME: 09:54:12

Input Set : A:\21834518 seq list.txt

Output Set: N:\CRF3\03052002\I659983D.raw

462 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against forms

463 GnRH/ LHRH.

465 <220> FEATURE:

467 <221> NAME/KEY: MISC_FEATURE

469 <222> LOCATION: (1)..(1)

471 <223> OTHER INFORMATION: X=pyroglutamic acid

475 <220> FEATURE:

477 <221> NAME/KEY: MISC_FEATURE

479 <222> LOCATION: (6)..(6)

481 <223> OTHER INFORMATION: X=D-Lys

485 <220> FEATURE:

487 <221> NAME/KEY: MISC_FEATURE

489 <222> LOCATION: (11)..(11)

491 <223> OTHER INFORMATION: X=Gln or Gln preceded by a spacer

495 <220> FEATURE:

497 <221> NAME/KEY: MISC_FEATURE

499 <222> LOCATION: (16)..(16)

501 <223> OTHER INFORMATION: X=D-Lys

505 <220> FEATURE:

507 <221> NAME/KEY: MISC_FEATURE

509 <222> LOCATION: (21)..(21)

511 <223> OTHER INFORMATION: X=Cys-NH2

515 <400> SEQUENCE: 7

W- > 517 Xaa His Trp Ser Tyr Xaa Leu Arg Pro Ala Xaa His Trp Ser Tyr Xaa
 518 1 5 10 15

W- > 521 Leu Arg Pro Ala Xaa
 522 20

525 <210> SEQ ID NO: 8

527 <211> LENGTH: 42

529 <212> TYPE: PRT

531 <213> ORGANISM: Artificial Sequence

535 <220> FEATURE:

537 <223> OTHER INFORMATION: A peptide suitable for eliciting an immune response against forms

538 GnRH/ LHRH.

540 <220> FEATURE:

542 <221> NAME/KEY: MISC_FEATURE

544 <222> LOCATION: (1)..(1)

546 <223> OTHER INFORMATION: X=NH2-Glu

550 <220> FEATURE:

552 <221> NAME/KEY: MISC_FEATURE

554 <222> LOCATION: (6)..(6)

556 <223> OTHER INFORMATION: X=D-Lys

560 <220> FEATURE:

562 <221> NAME/KEY: MISC_FEATURE

564 <222> LOCATION: (11)..(11)

566 <223> OTHER INFORMATION: X=Gln or Gln preceded by a spacer

570 <220> FEATURE:

572 <221> NAME/KEY: MISC_FEATURE

574 <222> LOCATION: (16)..(16)

W- I

Use of n and/or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

DATE: 03/05/2002

PATENT APPLICATION: US/09/659,983D

TIME: 09:54:13

Input Set : A:\21834518 seq list.txt

Output Set: N:\CRF3\03052002\I659983D.raw

L:97 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:221 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:367 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:371 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:442 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:446 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:517 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:521 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:632 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:636 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:711 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:715 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:776 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:855 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:926 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:930 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:1001 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1005 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13